

Appln No. 09/882,138
Amdt date December 1, 2003
Reply to Office action of July 1, 2003

REMARKS/ARGUMENTS

In the Office action dated July 1, 2003 the Examiner rejected claims 1 - 36 under 35 U.S.C. §§ 112 and 103. Claims 1 - 36 remain pending in this application. Reconsideration and reexamination are hereby requested.

Applicants have amended the specification to correct a typographical error relating to two reference designations. No new matter has been added.

Response to the Rejection Under 35 U.S.C. § 103

The Examiner rejected claims 1, 3, 6, 16, 17, 19, 20, 22, 28, 30 and 31 under 35 U.S.C. §103 as being obvious in view of Herman et al. (U.S. Patent No. 6,075,905) and further in view of Mayer, III et al. (U.S. Patent Application Publication No. US2002/0008675 A1). Claims 1, 19, 22 and 28 are independent claims.

In paragraphs 1, 6, 8 and 9 of the Office action, an identical explanation was stated for the rejection of each of the independent claims. Applicants respectfully disagree with the contention in these paragraphs that the cited references teach or suggest the inventions of independent claims 1, 19, 22 and 28. Applicants will address each of the independent claims in turn.

The method of claim 1 recites, in part: "printing the first image segment and the buffer region . . . and printing the second image segment and the buffer region." Accordingly, claim 1 relates to a multi-pass printing method.

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In contrast, Herman et al. teaches a mosaic image construction where several images are digitally combined into a single mosaic digital image representation, then the single digital image representation is printed in a single pass. For example, Herman et al. teaches that "selected source images are combined into a single mosaic." Column 5, lines 48 - 50. As shown in Figure 7, the source images are digital representations from a camera (Digitizer 712 generates image stream 714). See also, column 17, lines 59 - 64: "This exemplary embodiment is a system for real-time capture of a high resolution digital image stream 714." The specification also shows that the combined mosaic is created in the digital domain: "Once the mosaic has been completed it may be further edited or processed to achieve a desired image format. For example, it may be warped to a new coordinate system, cropped, or enhanced through image processing techniques." Column 6, lines 29 - 32. It is apparent that these techniques (e.g., warping to a new coordinate system) refer to the digital domain. Only after the final, single mosaic image is constructed does the mosaic image get sent to a printer. See Column 6, lines 36 - 37: "The final mosaic composite image may be presented on a display, printed, or stored in a computer file."

From the above, it is apparent that Herman et al. is directed to an entirely different apparatus and process. Herman et al. merely mentions the printing process as a possible final step and discloses nothing regarding that printing process. Accordingly, Herman et al. does not teach or suggest the claimed multi-pass printing method.

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Mayer III et al. relates to a display system for seamless integration of images using a transmissive/reflective mirror. Mayer III et al. does not disclose a multi-pass printing method.

In summary, even assuming that there was motivation to combine these references (which there is none), the combination of these references does not teach or suggest the method of claim 1.

Independent claim 19 is directed to a method that recites, in part: "defining a first rate at which the intensity of the pixels in the buffer region will be attenuated across the region in printing a first image segment; and defining a second rate at which the intensity of the pixels in the buffer region will be attenuated across the region in printing a second image segment." Thus, claim 19 relates to a multi-pass printing method.

For reasons similar to those discussed above in conjunction with claim 1, the cited references do not teach or suggest the multi-pass printing method of claim 19.

Independent claim 22 claims a printing system comprising: a "pixel counter," an "integrator," a "multiplier" and an "intensity modulator." This combination is not taught or suggested by the cited references. Reference to the Figures of Herman et al. shows that Herman et al. discloses an entirely different structure than that claimed in claim 22. For example, Figure 7 shows a camera 710, a digitizer 712, an image stream 714, a front-end alignment process 716, an initial mosaic structure 718, a back-end alignment process 720, blending process 722, and a final mosaic 724.

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Applicants also note that in paragraph 8 of the Office action the Examiner has not identified any structure in the cited references that correspond to the above-quoted elements. Rather, the Examiner has simply repeated the grounds for rejection cited for method claims 1 and 19. Moreover, no such structure could be identified, as none is present or even suggested in the cited references. As such, Applicants submit that the Examiner has not established a *prima facie* case of obviousness. Accordingly, Applicants request that this rejection be withdrawn.

Independent claim 28 claims a printing system comprising: "means for counting pixels," "means for computing an intensity value from a ramp rate and an initial value," "means for converting" and "means for modulating intensity" This combination is not taught or suggested by the cited references. For example, neither of the cited references disclose anything regarding "computing an intensity value from a ramp rate" as claimed.

Applicants again note that in paragraph 9 of the Office action the Examiner has not identified any structure in the cited references that correspond to the above-quoted means. Accordingly, Applicants request that this rejection be withdrawn.

In summary, Applicants submit that the inventions of claims 1, 19, 22 and 28 are not taught or suggested by Herman et al. or any of the other cited references.

Claims 2 - 18, 20 - 21, 23 - 27 and 29 - 36 that depend on claims 1, 19, 22 and 28 also are patentable over the cited

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references for the reasons set forth above. In addition, these dependent claims are patentable over these references for the additional limitations that the dependent claims contain.

Response to the Rejection Under 35 U.S.C. § 112

The Examiner has rejected the claims under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Examiner rejected independent claims 1, 19, 22 and 28 on the grounds that there is "insufficient antecedent basis" for the limitations "ramp value," "first and second rates," And "ramp rate and initial value." The Examiner states that "Applicant should be able to provide a range of numbers for these limitations." And that "Applicant should illustrate how first and second rates are defined."

Initially, Applicants note that the claimed subject matter is fully supported by the disclosure. For example, Figure 2 shows one embodiment that employs a linear ramp rate from, for example, 0 to 1 over, for example, a 2K buffer region. Hence, Applicants have disclosed enabling examples as to how ramp values and rates may be defined. Applicants stress, however, that the claims are not limited to this embodiment.

Moreover, there is no statutory requirement that Applicants must claim a specific range of numbers or that a claim must explicitly illustrate how the rates are defined. Applicants have disclosed novel methods and apparatus for solving problems associated with printing including, for example, combining

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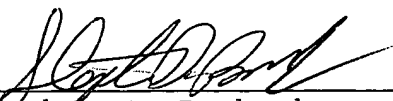
printed images by ramping intensity values at various rates. Applicants have provided examples as to how these methods and apparatus may be used and constructed, including how the ramp rates may be specified. Hence, one skilled in the art would be able to readily practice the claimed invention without undue experimentation. It follows then that Applicants' claims do "particularly point out and distinctly claim the subject matter which the applicant regards as his invention" under section 112, second paragraph. Accordingly, Applicants respectfully request that this rejection be withdrawn.

CONCLUSION

Claims 1 - 36 are not indefinite under section 112 and are not obvious in view of the cited references considered either separately or in combination. Accordingly, Applicants submit that the pending claims are in condition for allowance and request that a Notice of Allowance be issued for this application.

Respectfully submitted,
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